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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/767,885	01/24/2001	Kimio Inoue	202182US3	2548

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EXAMINER

SORKIN, DAVID L

ART UNIT PAPER NUMBER

1723

DATE MAILED: 06/25/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/767,885

Applicant(s)

INOUE, KIMIO

Examiner

David L. Sorkin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: It appears that the specification includes several typographic errors arising from confusion of the degree symbol (°) and zero (0). See page 9, line 1, "positioned 600 out of phase"; page 14, line 13, "a twist angle of 300"; and page 14, line 14, "a twist angle of 00".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. The scope of claim 1 is unclear. The preamble recites "A screw set for a twin screw extruder ... comprising". The body of the claim recites "a rotor segment" and "a screw segment". It is not particularly clear what structure "A screw set" requires. Does this mean a plurality of screws are required by the claim? Is the claim open to the "rotor segment" being on one screw and the "screw segment" being on a different screw. Applicant is referred to *In re Collier*, 158 USPQ 266 (CCPA 1968) regarding section 112 and 103 issue which surround claims in which cooperative structural relationships are not clearly positively recited between claimed elements. In the instant case, it is unclear, what, if any, cooperative structural relationship is being recited between the

“rotor segment” and the “screw segment”. Likewise, in claim 2, a “kneading disk segment” is introduced, without reciting any structure relationship to any other structural element.

5. It is unclear throughout the claims what the standard for determining whether or not given elements are “having the same sectional shape” is. In one instance “having the same sectional shape in the axial direction” is recited, while in other instances the no particular section is specified. It is unclear how a parallel kneading blade according to claim 5 could have the same axial sectional shape as that of a screw blade.

6. In claim 1, the phrase “a screw segment comprising at least one screw” is confusing because it reads as if a portion of a screw includes one or multiple entire screws.

7. In claim 2, there is lack of antecedent basis for “the portion of said rotor segment”.

8. In claim 3, there is lack of antecedent basis for “the portion of said rotor segment”.

9. In claim 3, there is lack of antecedent basis for “all of segment members”.

10. The word “clearance” usually refers to a gap between two relatively movable objects, such as a screw and barrel. The instant claims it is used regarding a screw alone, while no barrel is recited. While in claim 1 it might be understood that “clearance...in the circumferential direction” means height in the circumferential direction, it is completely unclear, in claim 4, what “clearances different from each other in the axial direction” means. It is suggested that the word “clearance” not be used in a

claim to a subcombination claim to a screw or set of screws, where not barrel is being claimed. In any case, it must be clear what is being claimed.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. While it is unclear what is being claimed as discussed above, the claims have been considered with regard to the prior art to the extent possible.

13. Claims 1-6, 8 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Inoue et al. (US 5,947,593). Regarding claim 1, Inoue ('593) discloses a screw set comprising a rotor segment (1b) having a plurality of kneading blades (7) which provide a plurality of tip clearances different from each other in the circumferential direction, and having the same sectional shape in the axial direction except for crest portions of said kneading blades (see col. 5, lines 27-34; col. 6, lines 50-57; Fig. 4); a screw segment (1a) comprising at least one screw, a portion of said screw segment except for crest portions of screw blades thereof having the same sectional shape as a portion of said rotor segment except for the crest portions of said kneading blades (see Fig. 1). Regarding claim 2, a kneading disk segment comprising at least one kneading disk, a portion of said kneading disk segment except for crest portions of disk blades thereof having the same sectional shape as the portion of said rotor segment except for the crest portions of said kneading blades (col. 3, lines 27-32). Regarding claim 3, all of

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segment members have the same sectional shape as the portion of said rotor segment except for the crest portions of said kneading blades (see Fig. 1). The scope of claim 4 is particularly unclear; however, as best understood, the subject matter of claim 4 is disclosed in Fig. 13. Regarding claim 5, each counterclockwise, clockwise, and parallel blades are disclosed by the reference (see col. 10, lines 37-38, Figs. 6-9). Regarding claim 6, Figs. 6-9 each disclose both clockwise and counterclockwise blades. Regarding claim 8, the set comprises two kneading blades (see col. 5, lines 20-23). Regarding claim 9, the set comprises three kneading blades (see col. 5, lines 20-23).

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al. (US 5,947,593). As stated above Inoue ('593) discloses all three types of blades. While Inoue ('593) does not explicitly disclose specific segment have all three blades, it is considered that the embodiment of Fig. 12 together with col. 10, lines 37-38 would have suggested to one of ordinary skill in the art to include all three types in a segment.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to David L. Sorkin whose telephone number is 703-308-1121. The examiner can normally be reached on 8:00 -5:30 Mon.-Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L. Walker can be reached on 703-308-0457. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.


David Sorkin

June 21, 2002


CHARLES E. COOLEY
PRIMARY EXAMINER